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ABSTRACT

An evaluation was conducted of the Mississippi State University Web site as a source of information and education. A purpose sample of 67 Web experts was selected to evaluate the site, and a random sample of 104 site users was selected. Thirty-six experts and 25 users responded to questionnaires. Most users and evaluators expressed satisfaction with the site, but some concerns were noted. Some users found information out of date, and others thought there was too much information on the homepage. Many found the Web site attractive and easy to use, but others found it dull and difficult to navigate. (SLD)

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TAKING ON BASEBALL, HOTDOGS, APPLE PIE, AND CHEVROLET: EVALUATING EXTENSION'S PRESENCE ON THE WORLD WIDE WEB

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INTRODUCTION

The Mississippi State University Extension Service (MSU-ES) presence on the Internet's World Wide Web (Web) promotes the Extension Service worldwide and provides online information and publications for clientele. Currently, no other area of technology development is evolving more rapidly than Web technology. The technology for creating a Web site is relatively inexpensive and easily learned. Access to this information is worldwide, instantaneous, and increasingly available to more and more individuals.

Large and small organizations, and many individuals, are scrambling to develop a presence on the Web, competing for attention across an increasingly wide variety of choices. As quality of presentation improves, the intensity of the competition among information providers increases (Trochim, 1997). Content-rich, reader-friendly Web sites are inherently high value Web sites, because they strive to meet the information needs of their visitors in the simplest, most timely manner available. Such sites are likely to build a steady base of repeat visitors, as well as attract new visitors (http://www.pantos.org/atw/35679.html). According to Nielsen (1999), factors driving repeat visitors to favorite Web sites are high quality content, ease of use, minimal download time, and often-updated information (daily or weekly).

The three common uses for Web sites are information dissemination, education and training, and communications. Information dissemination is a making information available to anyone who would be interested in it. Organizations use Web sites to display their mission statements, organizational information, contact information, product information, directories, technical assistance, and so on. Education and training is closely related to the information dissemination function, in that the Web is often used to provide specific training in well-defined

topical areas. University Web sites are used to support specific course content. In organizational Intranets, Web sites provide training in essential job functions. Finally, the Web has become a generic platform for communicating via the Internet. Contemporary Web technology allows the browser to send and receive e-mail, participate in bulletin boards and chat-room discussions, and accomplish on-line conferencing using whiteboards and even two-way audio and video connection (Trochim, 1997).

According to Nielsen (1999), the ten top mistakes made in designing Web sites in 1996 are still bad for Web usability. In addition, there are ten other top mistakes made in 1999. In 1996 the ten top mistakes were frames, bleeding technology, scrolling text, complex URLs, orphan pages, scrolling navigation pages, lack of navigation, non-standard link colors, outdated information, and slow download times.

Nielsen (1999) concluded that new Web technology and new applications for the Web have introduced an entirely new class of mistakes. The top ten new mistakes of Web designs are breaking or slowing down the back button, opening new browser windows, non-standard use of GUI widgets, lack of biographies, lack of archives, moving pages to new URLs, headlines that make no sense out of context, jumping at the latest internet buzzword, slow server response times, and anything that looks like advertising.

MSU-ES Web site is one that has characteristics of both an Internet and an Intranet-is designed for internal and external audiences. To be effective, the Extension Service must continue to be the leading force in disseminating information by increasing its presence on the Web.

Purpose

The purpose of this evaluation of the MSU-ES Web site was to determine the quality of the MSU-ES Web site as a source of information and education. The questions guiding this evaluation were

1. Does the MSE-ES Web site contain information that the reader finds useful and valuable?
2. Is the information architecture (structure) of the MSU-ES Web site designed appropriately (i.e., design guidelines, ease of use, logical layout)?

Procedures and Methods

Population

The population for this evaluation consisted of two groups. One population (n=67) was Web experts (agricultural educators from across the United States, MSU-ES agents, and Extension Web masters). A purpose sample of Web experts was selected using the evaluator's knowledge of AAAE members, an administrator's knowledge of MSU-ES agents, and selected Web masters from Extension services around the U.S. The second group was MSU-ES clients. A random sample was conducted of individuals who signed the MSU-ES guest book (n=104). Permission to use extension professionals from the MSU-ES was obtained from the Director of the MSU-ES. The individuals in the clients group were emailed a letter asking them to participate in the survey. Approval for the evaluation was obtained from the Institutional Review Board for the protection of human subjects.

Instrumentation

The evaluators developed two questionnaires, one for the Web experts and one for the clientele. The questionnaires used to collect the data were based on the Educational Web Site

Evaluation (Raven & Brignac, 1999) and Sixty Ticks for a Good Web Site (Waller, 1997). The questionnaire developed for the Web experts contained 36 questions and one for the clients contained 25 questions. Both questionnaires consisted of information related to the purpose of the evaluation where subjects were asked to respond "yes" or "no" the questions.

A panel of experts, consisting of the MSU-ES Technology Task Force, to establish content validity reviewed the instruments. Revisions were made based on the comments from the panel of experts.

Data Collection and Data Analysis

The questionnaire used to collect the data was Web based. A letter asking each subject to complete and submit the questionnaire was mailed via email. After two weeks, a follow-up mailing was made to nonrespondents encouraging them to complete and submit the questionnaire. After an additional two weeks, a second follow-up message was mailed to nonrespondents encouraging them to complete the questionnaire.

Of the 104 clientele, 25 responded to the questionnaire, yielding a 25% response rate. For the Web expert group 36 individuals responded, yielding a 53.7% response rate.

Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS/PC Inc., 9.0). Appropriate statistical procedures for description (frequencies, percents, means, and standard deviations) were used.

Findings

Findings are presented below based on the two critical questions of the evaluation.

Question 1: Does the MSU-ES Web site contain information that the reader finds useful and valuable?

Participants were asked their opinion on the usability of the MSU-ES Web site. The percentages of the "Yes" responses are shown in Table 1. In this section the subjects in the client group were asked three additional questions than the Web experts. The majority of the subjects indicated that the MSU-ES Web site was a useful and valuable source of information.

Table 1. Clientele's and Web Expert' s Opinion of the Usability of MSU-ES Web Site

	Yes % Clients	Yes % Web Experts
Important information is emphasized	82.6	70.6
Pages present content that is current and appropriate for the topic	82.6	90.0
Pages present meaningful and useful content that is intended to educate and/or inform	95.5	97.1
The site is easy to print if necessary	94.7	80.6
The site is easy to read	87.0	88.9
Important information is displayed on the beginning page	84.2	90.9
Pages present a sufficient amount of content for the page to be useful	95.2	
I could find information I was looking for without too much trouble	82.6	
Pages provide links to additional information	88.2	

Question 2: Is the information architecture (structure) of the MSU-ES Web site designed appropriately (i.e. design guidelines, ease of use, logical layout)?

To answer this critical question, participants were asked to respond to several questions that related to structure of the Web site (design guidelines, ease of use, logical layout), as shown in Table 2. Only 64.7% of the clients and 60.7% of the Web experts answered "yes" to the question "there are other indications that the content on the page is kept current. Overall the subjects responded positively to the architecture of the MSU-ES Web site.

Table 2. Web Expert's and Client's Opinion of the (structure) of the MSU-ES Web site

	Yes % Clients	Yes % Web Experts
At useful intervals there is an escape link back to the content	95.2	87.1
The structure of the site is clear	83.3	83.3
The information is organized in a logical manner	81.8	92.1
The site has definite beginning page	95.0	100
Information is free of grammatical, spelling, and other typographical errors	95.0	68.9
The URL/Domain Name is appropriate and meaningful	86.4	96.9
The site looks good, and has a clean, uncluttered look	81.8	80.6
The over all appearance of the site is professional	95.2	88.6
Sources of date are acknowledged	94.7	84.2
There are dates on the page to indicate when the page was first placed on the Web	80.0	64.3
There are dates on the page to indicate when the page was last revised	87.5	93.1
There are dates on the page to indicate when the page was written	88.2	75.9
Important information is displayed on the beginning page	84.2	90.9
There are other indications that the content on the page is kept current	64.7	60.7
The information is free of advertising	100	100
Any browser, including text-based browsers, can view the site		90.7
Useful content is not more than three clicks from the beginning page		68.6
There are appropriate links to other useful pages		76.5
Each site has a proper title		94.1
The titles are consistent with words in links to that page		97.2
Each site has a link back to the content page		84.8
Standard HTML is used		96.3
There are no broken lines		65.0
Text is visible while graphic are loading		96.8
The author's name and/or email address are included		75.0
The legitimacy of the site's sponsor can be verified		93.8
The site is designed for quick download		96.8
The surfer sees something meaningful within eight seconds		75.8
Correct file types are used		92.3
There is a function available to report faults, comments, and suggestions		77.8

On the questionnaire, for both the clients and Web experts, space was provided for the subjects to make comments that were not covered about the page. Below is a summary of the comments.

I found the information I required for a research project on incubation on these pages - the information was in a logical sequence and accurate

As a retiree of MSU-ES, I enjoy visiting all MSU Web sites and enjoy the info. Use the "garden tabloid" for planting every year.

This is a very good information source for all Miss. residents. I would only hope that MSU is planning to post all information sheets on this web site.....GOOD JOB!

I am very pleased to have the information afforded on your site, as we are looking forward to relocating to Mississippi in the near future.

I can't remember the requested information, however, I obtained the information I was looking for and had no problems. Thanks for being there.

I left a question on the site and was answered in a very timely manner. Thank you.

I have used other Extension Web sites and find that ours is one of the easiest to use.

The page is useful and a user can find information quickly.

I like the clean, organized presentation of the pages. Display of pages is logical and easy to follow.

I think that we have an excellent Web site. It is easy to use and provides you with links to other reliable sources for further information that you might need.

I found the site to be very simple to navigate. I particularly appreciate being able to select the next link without having to scroll down to look for the appropriate link. This allowed me to navigate to the point(s) of interests without too much difficulty.

The only topic I've been to your site for is on the subject of farm ponds, and was linked there on a web search. I don't remember ever looking at the MSU Extension Service web site "Beginning Page"

Concerns

The only problem I have ever had was with information is being out of date, such as forestry short courses or Timber Price Reports, and I have not checked these recently, they my be more current now.

Plant science brochures are outdated and incomplete, need to put new link to Nurseryman Association and need MNA site to be COMPLETED!! and usable.

The only problem that I saw was keeping the site up to date.

It is my humble opinion that more regulars update overall must never be lost sight of if the Web site is to be known as actual and current. More updates more often!

Most sites are kept current, however, some sites are apparently forgotten overtime.

Sportfishing page had no workable URL's as did several others I visited. I assume they are blank and this is just for testing purposes. I like how fast it will load even on a slow machine via modem. No big graphics helps your load time and useful nature of site.

This Extension site needs to take advantage of PDF files for the publications. This is perhaps the ONLY Extension Service site that doesn't make use of PDF files for the on-line publication of their publications. It would be easier to print the material as well as view the associated pictures and/or graphics if PDF files were used. The site also needs to be enhanced in terms of appearance - there is an over-reliance on tables for layout, which makes it difficult to find information. Also the lack of graphics makes the page appear unprofessional and second rate. Proper use of graphics will not adversely affect the download time of the site while greatly improving the professional appearance of the site (which impacts credibility).

The page could be more attractive.

Too much text on your main homepage. Keep things simple and easy to follow. Design easy reading text columns. How do we know content is current? Overall a good site!

Parts of the site look very good, but some pages like the Departments page are very cluttered with too much information on them. I am a firm believer in keeping the pages simple and uncluttered. Also where you go from a two boxes to four boxes with information gives what I consider a cluttered look. Keep the interface simple and easy on the eyes. Pages that are complex and make it difficult to read are hard to read.

Some pages simply are not updated often enough.

The site has a very functional design. There is lots of current, useful information that is easy to access. I did find several links that were not connected (publications and videos on the Sportfishing page). The only concerns I have would be related to the aesthetics of the site. While one person might find the appearance to be clean, others might call it sterile. There is not much there to appeal to the eye. More graphics, colors, different fonts, etc. would help. Of course, adding those things slows the loading speed.

The site is informative, but dull. I believe the current generation of web users is split between those who don't mind reading all that information online and those who will click right past it. However, the future is definitely headed towards web users who prefer "graphically intense, visually stimulating" web sites, while still being "informative" in the general Extension sense. I don't think youth would find your 4-H web site very exciting

and/or worthy of a return visit; remember, today's youth have never known a time when remote controls and MTV did not exist. The web design questions I ask myself when building and maintaining a site are: Is this site for information only? (If so, then I don't worry about visual appeal, graphics, user interactivity, or public perception of the site.) Is this site designed to be a learning environment? (If so, then I DO worry about visual appeal, graphics, user interactivity, content freshness, and public perception of the site.)

The web site is nice looking and loads quickly. I had a little trouble locating the Extension Service web site. Not very easy to find. Finally went through your search engine. But overall I think you have a very usable Web site. I know how difficult it is to get everything working and accessible to all people.

Though my experience with this page is somewhat limited, I have found that pertinent information is not readily available when I need it. Also, the 4-H portion of the page is a youth organization, so it should be designed to be eye catching for youth, and be fun for the children to use. There needs to be downloadable enrollment forms along with the various counties contact information.

In the header logo, it may be difficult to determine that it is two graphics that link to two different sites - consider using two different colors for the lettering. The titles of the pages under the header logo need to be emphasized - they blend too much with the other plain text on the page. There is a typo on www.davm.msstate.edu/divdepts.htm, in the Program Units description. A site index would be useful. Authors' email addresses should be hyperlinks.

I think that the design and overall look of the site is very professional; however, the site is not very easy to navigate and it is difficult to find information. The design of links and the titles of various pages are not clear and the user has difficulty in determining where to go to get the information that they are looking for on the site. I think that we should restructure the titles of the tables with headings and make them more clear for the user.

I think it is an excellent site. My negative answers to the survey all relate to one problem. As I was trying to notify media, teachers, youth, etc. to visit the Pizza Farm web page I had difficulty in providing such a long url. It was also difficult to give them a short path-go here, click here. I received several complaints about the difficulty in navigating our site with comments that the wording was not logical. I believe that sometimes we fail to realize our terminology is unclear to others.

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